

Name: \_\_\_\_\_

**at1124exam: Radicals and Squares (v821)**

**Question 1**

Simplify the radical expressions.

$$\sqrt{99}$$

$$\sqrt{27}$$

$$\sqrt{50}$$

**Question 2**

Find all solutions to the equation below:

$$3(x + 6)^2 - 5 = 70$$

**Question 3**

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 - 10x = -16$$

**Question 4**

A quadratic polynomial function is shown below in standard form.

$$y = 3x^2 + 30x + 83$$

Express the function in **vertex form** and identify the **location** of the vertex.